

## REMARKS

Claims 1 to 21 are presently pending herein. Claims 1, 15, 18 and 20 are presented in independent form. No claim has been amended in response to the Official Action dated April 3, 2006.

The indication of allowable subject matter in Claims 9, 12, 19 and 21 is acknowledged with appreciation.

The sole grounds of rejection in the Official Action dated April 3, 2006 is the rejection of Claims 1 to 8, 10, 11, 13 to 18 and 20 under 35 USC § 102 as allegedly being anticipated by O'Toole (i.e., U.S. Patent No. 5,889,856) Applicants respectfully submit that this grounds of rejection is erroneous for at least the reasons provided below.

“Anticipation...requires that the *identical invention that is claimed* was previously known to others and thus is not new...*When more than one reference is required to establish unpatentability of the claimed invention anticipation under § 102 can not be found*, and validity is determined in terms of § 103.” *Continental Can v. Monsanto*, 948 F.2d 1264, 1267 (Fed. Cir. 1991)(emphasis added).

“A patent is invalid for anticipation *when the same device or method, having all the elements and limitations contained in the claims*, is described in a single prior art reference.” *ATD Corporation v. Lydall, Inc.*, 159 F.3d 534, 545 (Fed. Cir. 1998)(emphasis added). See also *Crown Operations International, Ltd. v. Krone*, 289 F.3d 1367, 1375 (Fed. Cir. 2002)

The single reference must have an enabling disclosure. See *Advanced Display Systems Inc. v. Kent State University*, 54 USPQ 2d 1673, 1679 (Fed. Cir. 2000)(“Accordingly, invalidity by anticipation requires that the four corners of *a single, prior art document* describe every element of

the claimed invention, expressly or inherently, such that *a person of ordinary skill in the art could practice the invention without undue experimentation.*”)(emphasis added); See also, *PPG Industries, Inc. v. Guardian Industries Corp.*, 37 USPQ 2d 1618, 1624 (Fed. Cir. 1996)(“To anticipate a claim, a reference must disclose every element of the challenged claim and *enable one skilled in the art to make the anticipating subject matter.*”)(emphasis added)

“To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. *Such evidence must make clear that the missing descriptive matter is necessarily present* in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” *Continental Can*, 948 F.2d at 1268. (emphasis added)

“*Inherency, however, may not be established by probabilities or possibilities.* The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981)(emphasis added). See also, *Continental Can*, 948 F.2d at 1269.

“[T]he initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention rests upon the examiner...In relying upon inherency, *the examiner must* provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art.” *Ex parte Levy*, 17 USPQ 2d 1461, 1464 (BPAI 1990)(emphasis in original)

Evaluated under these controlling legal standards, the rejections of Claims 1 to 8, 10, 11, 13 to 18 and 20 under 35 USC § 102 based on O’Toole cannot be sustained.

Applicants’ invention, as set forth in Claim 1, is directed to a line interface for coupling a

twisted pair telephone line with a communications network. The line interface comprises a broadband analog front end circuit coupling the twisted pair telephone line with the line interface and a programmable filter coupled to receive an output signal from the broadband analog front end circuit and configured to filter frequency bands of the output signal into a plurality of separate, variable bandwidth transmission channels. The plurality of separate variable bandwidth transmission channels are associated with the communications network and the frequency bands and the variable bandwidths are determined by programming the programmable filter.

O'Toole does not anticipate or render obvious Applicants' invention, as recited in Claim 1. For example, O'Toole does not teach or suggest a programmable filter as claimed. More specifically, O'Toole lacks any teaching of a programmable filter configured to filter frequency bands of the output signal into *a plurality of separate, variable bandwidth transmission channels*. O'Toole also fails to teach or suggest that the *variable bandwidths* are determined by programming the programmable filter. In fact, O'Toole lacks any teaching or suggestion of *variable bandwidth transmission channels*. The Examiner's reliance on O'Toole at col. 7, lines 62 to 65, col. 8, lines 49 to 50 and col. 9, lines 1 and 2 is misplaced. None of these passages disclose a programmable filter configured to filter frequency bands of the output signal into a plurality of separate, *variable bandwidth transmission channels*. Further, these passages fail to disclose the claim requirement that the *variable bandwidths* are determined by programming the programmable filter. Col. 7, lines 62 to 65 of O'Toole reads as follows:

DSP 50 in one embodiment is a standard programmable DSP, which can be programmed to perform digital filtering, anti-aliasing, data extraction, and data encoding, decoding, and formatting.

Notably, this passage does not even mention variable bandwidth transmission channels let alone a programmable filter that is configured to filter frequency bands of the output signal into a plurality of separate, *variable* bandwidth transmission channels where the variable bandwidths are determined by programming the programmable filter. Col. 8, lines 49 to 50 and col. 9, lines 1 and 2 of O'Toole merely reference a high-pass filter and a band-pass filter. These passages do not even remotely refer to *variable* bandwidth transmission channels. Rather, these passages merely recite the *fixed* frequency ranges for which filtering is performed by the band-pass filter and the high-pass filter.

Simply put, O'Toole does not render Claim 1 unpatentable.

Applicants' invention, as recited in Claim 15, is directed to a method of providing a plurality of services over a twisted pair telephone line, comprising the acts of: receiving a broadband analog signal from the twisted pair telephone line; filtering the broadband analog signal using a programmable filter into a plurality of separate bands wherein the plurality of separate bands are determined by programming the filter to generate a plurality of variable bandwidth channels; and transmitting the plurality of separate bands to a plurality of different service providers.

O'Toole does not teach or suggest Applicants' invention as recited in Claim 15. As explained in connection with Claim 1, O'Toole lacks any teaching of variable bandwidth channels. Accordingly, O'Toole cannot possibly anticipate Claim 15 that requires the step of filtering the broadband analog signal using a programmable filter into a plurality of separate bands wherein the plurality of separate bands are determined by programming the filter *to generate a plurality of variable bandwidth channels*. The Examiner's reliance on the band-pass

filter and the high-pass filter is misplaced for the reasons stated in connection with Claim 1.

Applicants' invention, as recited in Claim 18, is directed to a line interface for coupling a twisted pair telephone line with a communications network. The line interface includes a broadband analog front end circuit coupling the twisted pair telephone line with the line interface and a programmable filter coupled to receive an output signal from the broadband analog front end circuit and configured to filter frequency bands of the output signal into a plurality of different transmission channels. The plurality of different transmission channels include a first transmission channel having a first variable frequency bandwidth and a second transmission channel having a second variable frequency bandwidth wherein the programmable filter can be programmed to adjust a band edge of either the first transmission channel or the second transmission channel to increase or decrease the first and second variable frequency bandwidths, respectively.

O'Toole does not teach or suggest Applicants' invention as recited in Claim 18. For example, O'Toole lacks any teaching or suggestion of a plurality of transmission channels including a first transmission channel having a first variable frequency bandwidth and a second transmission channel having a second variable frequency bandwidth wherein the programmable filter can adjust a band edge of either the first transmission channel or the second transmission channel to increase or decrease the first and second variable frequency bandwidths. The Examiner relies upon various passages and/or elements in O'Toole including Figure 7, the band-pass filter, col. 9, lines 1 to 4 and 42 to 43, the high-pass filter and col. 10, lines 14 to 16. (See Official Action dated April 3, 2006, p. 8) None of these passages mentions a single transmission channel having a *variable frequency bandwidth*. Figure 7 does not include any such disclosure.

The band-pass filter and high-pass filter merely separate POTS from ADSL at fixed frequency ranges. Nowhere does O'Toole teach or suggest a programmable filter that can adjust the band edge of either the first transmission channel or the second transmission channel to increase or decrease the first and second variable frequency bandwidths. The passages at col. 9, lines 1 to 4 and 42 to 43 refer to sampling rates not transmission channels having variable frequency bandwidths. Col. 10, lines 14 to 16 refer to encoding not variable frequency bandwidth transmission channels.

Claim 18 is clearly patentable over O'Toole.

Applicants' invention, as recited in Claim 20, is directed to a method of providing a plurality of services over a twisted pair telephone line. The method includes the steps of: receiving a broadband analog signal from the twisted pair telephone line; filtering the broadband analog signal using a programmable filter into a plurality of separate frequency bands including a first transmission channel having a first variable frequency bandwidth and a second transmission channel having a second variable frequency bandwidth; programming the programmable filter to adjust a band edge of either the first transmission channel or the second transmission channel to increase or decrease the first and second variable frequency bandwidths, respectively; and, transmitting the first and second transmission channels to different service providers.

O'Toole fails to teach or suggest Applicants' invention, as recited in Claim 20. For example, O'Toole is completely devoid of any teaching or suggestion of the claimed steps of filtering the broadband analog signal using a programmable filter into a plurality of separate frequency bands including a first transmission channel having a first variable frequency bandwidth and a second transmission channel having a second variable frequency bandwidth and

programming the programmable filter to adjust a band edge of either the first transmission channel or the second transmission channel to increase or decrease the first and second variable frequency bandwidths. In rejecting Claim 20, the Examiner relies upon the same passages in O'Toole as he relied upon to reject Claim 18. These passages lack any teaching or suggestion of first and second transmission channels having variable frequency bandwidths. Further, the passages fail to teach or suggest programming the programmable filter to adjust a band edge of either the first transmission channel or the second transmission channel to increase or decrease the first and second variable frequency bandwidths.

Claim 20 is clearly patentable.

All remaining claims have either been indicated to contain allowable subject matter or depend directly or indirectly from an allowable independent claim. Accordingly, the subject patent application is now in condition for allowance.

It is believed that no additional fees are due. Should that determination be incorrect, however, the Patent Office Officials are further authorized to charge any deficiency to Deposit Account No. 50-0562 and notify the undersigned in due course.

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Respectfully submitted,



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